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Terms used

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**generating data definition file from graphical representation or diagram data model**

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**1** [IS '97: model curriculum and guidelines for undergraduate degree programs in information systems](#)

Gordon B. Davis, John T. Gorgone, J. Daniel Couger, David L. Feinstein, Herbert E. Longenecker

December 1997 **ACM SIGMIS Database , Guidelines for undergraduate degree programs on Model curriculum and guidelines for undergraduate degree programs in information systems**, Volume 28 Issue 1


Full text available:  [pdf\(7.24 MB\)](#)

Additional Information: [full citation](#), [citations](#)

**2** [Voronoi diagrams—a survey of a fundamental geometric data structure](#)

Franz Aurenhammer

September 1991 **ACM Computing Surveys (CSUR)**, Volume 23 Issue 3

Full text available:  [pdf\(5.18 MB\)](#)


Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** cell complex, clustering, combinatorial complexity, convex hull, crystal structure, divide-and-conquer, geometric data structure, growth model, higher dimensional embedding, hyperplane arrangement, k-set, motion planning, neighbor searching, object modeling, plane-sweep, proximity, randomized insertion, spanning tree, triangulation

**3** [Supporting the restructuring of data abstractions through manipulation of a program visualization](#)

Robert W. Bowdidge, William G. Griswold

April 1998 **ACM Transactions on Software Engineering and Methodology (TOSEM)**, Volume 7 Issue 2

Full text available:  [pdf\(1.57 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

With a meaning-preserving restructuring tool, a software engineer can change a program's structure to ease future modifications. However, deciding how to restructure the program requires a global understanding of the program's structure, which cannot be derived easily by directly inspecting the source code. We describe a manipulable program visualization—the star diagram—that supports the restructuring task of encapsulating a global data structure. The star diag ...

**Keywords:** meaning-preserving restructuring, semi-automated restructuring, software visualization, star diagram, tool-supported restructuring



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**1** [Modelling: Reveal: a tool to reverse engineer class diagrams](#)

Sarah Matzko, Peter J. Clarke, Tanton H. Gibbs, Brian A. Malloy, James F. Power, Rosemary Monahan

February 2002 **Proceedings of the Fortieth International Confernece on Tools Pacific: Objects for internet, mobile and embedded applications - Volume 10**

Full text available: [pdf \(1.00 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Many systems are constructed without the use of modeling and visualization artifacts, due to constraints imposed by deadlines or a shortage of manpower. Nevertheless, such systems might profit from the visualization provided by diagrams to facilitate maintenance of the constructed system. In this paper, we present a tool, Reveal, to reverse engineer a class diagram from the C + + source code representation of the software. In Reveal, we remain faithful to the UML standard definition of a ...

**Keywords:** UML, automated construction, class diagram, object-oriented programming, reverse engineering, unified modeling language

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## 1 [Using generative design patterns to generate parallel code for a distributed memory environment](#)



Kai Tan, Duane Szafron, Jonathan Schaeffer, John Anvik, Steve MacDonald

June 2003 **ACM SIGPLAN Notices , Proceedings of the ninth ACM SIGPLAN symposium on Principles and practice of parallel programming**, Volume 38 Issue 10

Full text available: pdf(385.41 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

A design pattern is a mechanism for encapsulating the knowledge of experienced designers into a re-usable artifact. Parallel design patterns reflect commonly occurring parallel communication and synchronization structures. Our tools, CO2P3S (Correct Object-Oriented Pattern-based Parallel Programming System) and MetaCO2P3S, use *generative design patterns*. A programmer selects the parallel design patterns that are appropriate for an application, and then adapts the patterns for that specific ...

**Keywords:** design patterns, frameworks, parallel programming, programming tools

## 2 [Modelling: Reveal: a tool to reverse engineer class diagrams](#)



Sarah Matzko, Peter J. Clarke, Tanton H. Gibbs, Brian A. Malloy, James F. Power, Rosemary Monahan

February 2002 **Proceedings of the Fortieth International Conference on Tools Pacific: Objects for internet, mobile and embedded applications - Volume 10**

Full text available: pdf(1.00 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Many systems are constructed without the use of modeling and visualization artifacts, due to constraints imposed by deadlines or a shortage of manpower. Nevertheless, such systems might profit from the visualization provided by diagrams to facilitate maintenance of the constructed system. In this paper, we present a tool, Reveal, to reverse engineer a class diagram from the C++ source code representation of the software. In Reveal, we remain faithful to the UML standard definition of a ...

**Keywords:** UML, automated construction, class diagram, object-oriented programming, reverse engineering, unified modeling language

## 3 [Panels: Model driven architecture: how far have we come, how far can we go?](#)



Granville Miller, Andy Evans, Ivar Jacobson, Henrik Jondell, Allan Kennedy, Stephen Mellor, Dave Thomas

October 2003 **Companion of the 18th annual ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications**

Full text available: pdf(153.57 KB) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Model Driven Architecture (MDA) is a technology that has been in the process of evolution for many years. Today, many vendors are now producing products that support MDA. We are hearing more and more success stories that indicate that this technology is the "real deal". But, with the failed promises of CASE in the late 1980's, many people still have questions

Terms used

**visual unified modeling language development tool**


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**1** [Streams, structures, spaces, scenarios, societies \(5s\): A formal model for digital libraries](#)

Marcos André Gonçalves, Edward A. Fox, Layne T. Watson, Neill A. Kipp

April 2004 **ACM Transactions on Information Systems (TOIS)**, Volume 22 Issue 2

Full text available:  [pdf\(316.85 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Digital libraries (DLs) are complex information systems and therefore demand formal foundations lest development efforts diverge and interoperability suffers. In this article, we propose the fundamental abstractions of Streams, Structures, Spaces, Scenarios, and Societies (5S), which allow us to define digital libraries rigorously and usefully. Streams are sequences of arbitrary items used to describe both static and dynamic (e.g., video) content. Structures can be viewed as labeled directed gra ...

**Keywords:** applications., definitions, foundations, taxonomy

**2** [Web technologies and applications \(WTA\): Towards increasing web application productivity](#)

Jia Zhang, Jen-Yao Chung, Carl K. Chang

March 2004 **Proceedings of the 2004 ACM symposium on Applied computing**

Full text available:  [pdf\(157.09 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

In this paper we present and discuss a template/meta-data based partial code generation system supporting web application development. Seamlessly incorporating the recent top-notch technologies, the framework maximally exploits the capabilities of the underlying implementation technologies. Our approach primarily benefits the framework and code developers. In addition, the complete separation of data model, navigation model, and presentation model reflects on a more general conceptual process th ...

**Keywords:** Web application development, automatic program generation and regeneration, framework, software architecture

**3** [Bioinformatics \(BIO\): Combining analysis and synthesis in a model of a biological cell](#)

Ken Webb, Tony White

March 2004 **Proceedings of the 2004 ACM symposium on Applied computing**

Full text available:  [pdf\(537.11 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)

We have previously described a top-down analytical approach, Cell Assembly Kit (CellAK), based on the object-oriented (OO) paradigm and the Unified Modeling Language (UML) and Real-Time Object-Oriented Methodology (ROOM) formalisms, for developing models and simulations of cells and other biological entities. In this approach, models consist of a hierarchy of containers (ex: cytosol), active objects with behavior (ex: enzymes, lipid bilayers, transport proteins), and passive small molecules (ex: ...


Terms used [XML schema file](#)

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## 1 [Streams, structures, spaces, scenarios, societies \(5s\): A formal model for digital libraries](#)



Marcos André Gonçalves, Edward A. Fox, Layne T. Watson, Neill A. Kipp

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Full text available: [pdf\(316.85 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Digital libraries (DLs) are complex information systems and therefore demand formal foundations lest development efforts diverge and interoperability suffers. In this article, we propose the fundamental abstractions of Streams, Structures, Spaces, Scenarios, and Societies (5S), which allow us to define digital libraries rigorously and usefully. Streams are sequences of arbitrary items used to describe both static and dynamic (e.g., video) content. Structures can be viewed as labeled directed gra ...

**Keywords:** applications., definitions, foundations, taxonomy

## 2 [Web technologies and applications \(WTA\): Design and implementation of component-based adaptive Web presentations](#)



Zoltán Fiala, Michael Hinz, Geert-Jan Houben, Flavius Frasincar

March 2004 **Proceedings of the 2004 ACM symposium on Applied computing**

Full text available: [pdf\(260.96 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)

Engineering adaptive Web applications implies the development of content that can be automatically adjusted to varying client devices and user preferences. To meet this requirement, the AMACONT project recently introduced a component-based XML document format. Configurable document components encapsulating adaptive behavior and layout are used on different abstraction levels in order to support flexible reuse for effective Web page generation. This paper focuses on the process of designing and i ...

**Keywords:** adaptive hypermedia, component-based Web engineering, design methods

## 3 [HCI and the challenges of mass communications: Meta-design for sensible information](#)



Louis Weitzman

March 2004 **interactions**, Volume 11 Issue 2

Full text available: [pdf\(603.16 KB\)](#) [html\(13.48 KB\)](#) Additional Information: [full citation](#), [references](#), [index terms](#)

## 4 [Putting integrated information in context: superimposing conceptual models with SPARCE](#)



Sudarshan Murthy, David Maier, Lois Delcambre, Shawn Bowers


January 2004 **Proceedings of the first Asian-Pacific conference on Conceptual**



Terms used **visual software development data model**


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**1** [Contributions: focus: new visualization techniques: 3D visualization development at NOAA forecast systems laboratory](#)

Paula T. McCaslin, Philip A. McDonald, Edward J. Szoke

February 2000 **ACM SIGGRAPH Computer Graphics**, Volume 34 Issue 1

Full text available:  [pdf\(1.36 MB\)](#)

Additional Information: [full citation](#), [abstract](#)

Visualization transforms numeric data into a visual form that enables users to conceptualize and understand the information. Three-dimensional (3D) visualization is the ability to display, analyze, manipulate and interact with 3D data in 3 space. New visualization tools, 3D in nature, are being designed to display meteorological datasets for use in operational forecasting. Forecast Systems Laboratory (FSL) has been supporting the development of 3D visualization software and applications since 199 ...

**2** [An Architecture for Retaining and Analyzing Visual Explorations of Databases](#)

J. P. Lee, Georges Grinstein

October 1995 **Proceedings of the 6th conference on Visualization '95**

Full text available:  [pdf\(954.51 KB\)](#)

Additional Information: [full citation](#), [abstract](#)

 [Publisher Site](#)


A software architecture is presented to integrate a database management system with data visualization. One of its primary objectives, the retention of user-data interactions, is detailed. By storing all queries over the data along with high-level descriptions of the query result and associated visualization, the process by which a database is explored can be analyzed. This approach can lead to contributions in the development of user models as "data explorers", metadata models for scientific data ...

**Keywords:** visual database exploration, database visualization, metadata, user modeling, interaction

**3** [A reverse engineering environment based on spatial and visual software interconnection models](#)

H. A. Müller, S. R. Tilley, M. A. Orgun, B. D. Corrie, N. H. Madhavji

November 1992 **ACM SIGSOFT Software Engineering Notes , Proceedings of the fifth ACM SIGSOFT symposium on Software development environments**, Volume 17 Issue 5

Full text available:  [pdf\(1.28 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Reverse engineering is the process of extracting system abstractions and design information out of existing software systems. This information can then be used for subsequent development, maintenance, re-engineering, or reuse purposes. This process involves the identification of software artifacts in a particular subject system, and the aggregation of these artifacts to form more abstract system representations. This paper describes a reverse engineering environment which uses the s ...